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DEPARTMENT OF ECOLOGY

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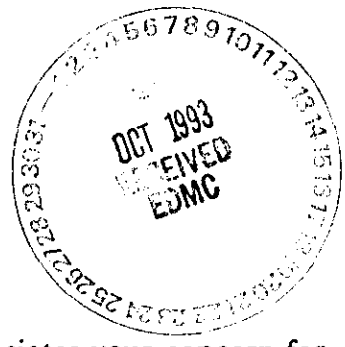

Mr. H. Larry Penberthy
631 South Street
Seattle, WA 98108

Dear Mr. Penberthy:

The Washington State Department Of Ecology (Ecology) appreciates your concern for expediting the appropriate cleanup of Hanford. Herein you will find responses to the June 10, 1993, letter regarding the **100 Area Excavation Treatability Test Plan** (DOE/RL-93-04, Rev. 0). Ecology is hopeful that the following responses will serve to clarify the concerns that were annotated in your letter. 28272

100 Area Treatability Test Plan -- Comment Response

COMMENT: Partitioning of the contaminants to the fines is by no means 100%. Both the small and large gravel are surface contaminated after soil washing.

RESPONSE: The conclusion that the physical partitioning aspect of soil washing is 100% effective is never implied in the test plan. The logic that surrounds soil washing is that the physical partitioning and overall volume reduction is optimized based on the bench scale test results. The actual effectiveness is realized with results obtained during pilot scale activities. If theoretically 90% volume reduction is achievable and realistically only 50% of the 90% is obtainable, then other stabilizing technologies may be used.

COMMENT: The washing step results in a large amount of contaminated water, which then has to be treated as a new waste stream.

RESPONSE: The amount or volume of contamination will not increase as a result of soil washing. Preliminary testing results do not indicate any water soluble radioisotopes. Decontaminating the process water can be accomplished by standard filtration techniques. Therefore, soil washing in this case has a very good potential of making the contamination more accessible for proper packaging and final disposition in a regulated landfill.

COMMENT: The action of soil washing does nothing to cure the problem (i.e., rendering the contaminants biologically unavailable).

RESPONSE: Current treatment technology in any format does not afford a "cure" for radioactive contamination. The best available technology allows controlling radioisotopes by containing them within a single matrix. Using a combination of technologies (i.e., soil washing followed by vitrifying the fines, grouting etc.) to mitigate the spread of radioisotopes is, at this time, the only viable option. As far as rendering radioisotopes biologically unavailable, there is presently no technology (with the possible exception of controlled transmutation) or combination of technologies that can achieve 100%.

COMMENT: Proposed Absolute Remediation -- Vitrification.

RESPONSE: To imply that vitrification is "absolute remediation" is scientifically unfounded . The process of vitrification (as discussed above) does nothing in terms of terminating decay and therefore, is no more of an absolute remediation then is soil washing. It is hopeful that using all available technologies in the correct combination will package the radioisotopes in a manner so that there is a way of controlling and more importantly lessening the impact on human health and the environment.

Again, Ecology appreciates your participation, and hopes that the objectives of the test plan are now better defined.

Sincerely,

Ted Wooley
Unit Manager
Nuclear & Mixed Waste Management Program

TW:mf

cc: Eric Goller, DOE
Dennis Faulk, EPA
Administrative Record

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Subject: 100 AREA EXCAVATION TREATABILITY TEST PLAN

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